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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/642,508 | 08/18/2003 | Shunichi Sekiguchi | 2565-0273P | 1661 |
| 2292 | 7590 | 11/13/2008 | EXAMINER | |
| BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747 | | | | VO, TUNG T |
| ART UNIT | | PAPER NUMBER | | |
| 2621 | | | | |
| | | | NOTIFICATION DATE | DELIVERY MODE |
| | | | 11/13/2008 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/642,508 | SEKIGUCHI ET AL. |
| | Examiner | Art Unit |
| | Tung Vo | 2621 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 17 October 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 48-53 is/are pending in the application.
 4a) Of the above claim(s) 1-47 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 48-53 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 29 January 2008 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 10/06/08, 09/18/09, 09/09/08.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/17/2008 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 48, 50, 51, and 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Boon (US 5,767,911).

Re claims 48 and 51, Boon teaches a moving picture decoding apparatus (336 of fig. 1, a decoder), comprising:

a memory (340 and 342 of fig. 1) for storing previously decoded image as reference image used for generating a prediction picture (344 of fig. 1);

a prediction picture generation section (344 of figs. 3 and 4; 252 and 358 of fig. 3), receiving indication information indicating one of a plurality of deformation methods (350 and 356 of fig. 3) and a motion parameter extracted from a bit stream (col. 6, lines 30-49, note Figure 5 shows if the target image 2014 is shifted by a vector A and rotated by a degree θ . from the template 2010, parameters A and θ . are produced from the deformation and displacement calculator 350), said prediction picture generation section (344 of fig. 3) generating the prediction picture using the reference image (368 and 370 of fig. 1) and the deformation method indicated by the indication information (350, 356, 520, and 528 of fig. 3), the deformation method applied to the reference image by transforming the reference image portion geometrically based on the deformation method (350 of fig. 3, col. 6, lines 43-49, note an affine transformation is preferably used in the deformation and displacement calculator 350 to obtain the deformation and displacement parameters, but a transformation containing a term of the second degree may be alternatively used. The parameters, i.e., affine coefficients, obtained by the deformation and displacement calculator 350 are input together with the template 2010 to a predictive image generator 352) ; and

a decoding section (336 of fig. 1) for decoding a texture from the bit stream (1004 of fig. 1), and adding (338 of fig. 1) the texture to the prediction picture generated by the prediction picture generation section (344 of fig. 1) so as to obtain a decoded image (508 of fig. 1) .

Re claims 50 and 53, Boon further discloses a plurality of memories (340 and 342 of fig. 1) for storing the reference image, each of the plurality of memories corresponding to at least one of the deformation methods (350 and 356 of fig. 3); wherein the prediction picture generation section (344 of fig. 3) generates the prediction picture based on the reference image stored in a

memory of the plurality of memories which corresponds to the deformation method indicated by the indication information.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 48-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haskell et al. (US 6,704,360) in view of Hibi et al. (US 5,886,742).

Re claims 48-49 and 51-52, Haskell teaches a moving picture decoding apparatus (fig. 10), comprising: a memory (e.g. 1026 and 1047 of fig. 10) for storing previously decoded image as reference image data used for generating a prediction picture (1067 of fig. 10); a prediction picture generation section (1067 of fig. 10, a predictor), receiving indication information indicating one of a plurality of deformation methods (Video Object Planes are obviously considered as a plurality of deformation methods, e.g. fig. 8; and 1007, VOPTYPE, of fig. 10) and a motion parameter extracted from a bit stream (1008 of fig. 10, note the motion vectors carried on line (705 of fig. 7; same 1008 of fig. 10) are either the direct motion vectors (which can be stored next P-picture block/macroblock motion vector and delta motion vector), forward motion vector, backward motion vector, or both forward and backward motion vectors) said prediction picture generation section generating the prediction picture using the reference image (e.g. 1026 of fig. 10) data and the deformation method indicated by the indication

information (e.g. 1007, 1025, and 1045 of fig. 10), the deformation method applied to the reference image (Prev VOPs Store 1026 of fig. 10); and

a decoding section (1001 and 1059 of fig. 10) for decoding a texture (note figure 8 shows a picture 800 is segmented into a number of semantic objects/regions of arbitrary shape, head and shoulders view 802, a logo 803, and the background without the foreground objects 801, wherein the background without foreground objects 801 is obviously considered as a texture, and the background as texture would obviously decoded, e.g. 1001 and 1059 of fig. 10) from the bit stream, and adding the texture to the prediction picture generated by the prediction picture generation section so as to obtain a decoded image (1062 of fig. 10, note the decoded VOPs would obviously be form the picture, see picture 800 of fig. 8).

It is noted that Haskell does not teach transforming the reference image portion geometrically based on the deformation method; and wherein the plurality of deformation methods are indicated by the indication information and used by the prediction picture generation section to generate the prediction picture include a parallel translation transform method, an affine transform method and a perspective transform method as claimed.

However, Hibi teaches transforming the reference image portion geometrically based on the deformation method (col. 42, lines 29-67); and wherein the plurality of deformation methods that are indicated by the indication information and used by the prediction picture generation section (e.g. 336a, 336b, and 336n of fig. 28) to generate the prediction picture include a parallel translation transform method, an affine transform method and a perspective transform method (e.g. 336a, 336b, and 336n of fig. 28, note Hibi teaches a predicted video-frame produced by translational displacement of rectangular areas is outputted together with the predicted video-

frame produced by the affine transformation, and e.g., overlapped motion-compensative method, bilinear transformation method, background prediction method in addition to the above-mentioned block-displacement and affine transformation methods, which are used in the prediction picture generation section (336a...336n of fig. 8)).

Therefore, taking the teachings of Haskell and Hibi as a whole, it would have been obvious to one of ordinary skill in the art to modify the geometrically transformation of Hibi into the prediction of Haskell to improve the efficiency of the interframe prediction by using an interframe prediction method that can more correctly predict a change of a video signal with time, and for achieving an improved quality of motion vectors of respective pixels.

Re claims 50 and 53, Haskell further teaches a plurality of memories (1026 and 1047 of fig. 10) for storing the reference image data, each of the plurality of memories (1026 of fig. 10) corresponding to at least one of the deformation methods (1007 and 1025 of fig. 10), wherein the prediction picture generation section (1067 of fig. 10) generates the prediction picture based on the reference image (e.g. 1026 of fig. 10) stored in a memory of the plurality of memories which corresponds to the deformation method indicated by the indication information (1007 and 1025 of fig. 10).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Etoh (US 5,768,438) discloses image encoding/decoding device.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tung Vo/
Primary Examiner, Art Unit 2621